

Post Infection Cough in Patients of Covid 19

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ABSTRACT

Introduction: Corona virus is responsible for Covid-19 infection that primarily involves the respiratory system of human. This virus belonged to corona virus family and first reported in china. We have noticed that some of the patient with Covid-19 infection developed new cough after 14 days of treatment. The aim of the study is to determine the frequency of the post covid cough and its association.

Materials and methods: This was a cross-sectional observational study with prospectively collected data of 100 patients with documented COVID-19 infection who were tested positive for COVID-19 PCR, presented to the Department of Medicine in Infectious diseases clinic, Liaquat National Hospital Karachi Pakistan.

Results: About 15% of patients experienced post covid cough that linger on up to 12 days.

Keywords: Coronavirus; Orthocoronavirinae; Pneumonia; PCR Assay; Symptoms

INTRODUCTION

In December of 2019, an outbreak of virus occurred with clinical manifestation of a range of symptoms. This outbreak occurred in the seafood market of Wuhan in China [1]. The outbreak caused by a virus known as the Coronavirus.

Coronavirus primarily attacks the human respiratory system. This is a novel virus that belongs to the coronavirus family and subfamily is Orthocoronavirinae [2]. As the name indicates, these viruses have a crown-like projection on its surface. The disease caused by this virus is called COVID-19, which is the acronym of "coronavirus disease 2019". This virus is very contagious and spreads quickly. These viruses are a large family of single-stranded RNA viruses [3]. In humans, they can cause illness ranging from mild flu to severe pneumonia. It is believed that the virus is zoonotic and cross-contamination occurred through bat [4].

It has an incubation period of 4 to 7 days [5]. Common symptoms are fever, dry cough, and fatigue but it may involve multiple systems including respiratory, gastrointestinal, musculoskeletal, and neurologic systems. These symptoms include cough, shortness of breath, sore throat, rhinorrhea, hemoptysis, muscle ache, headache or confusion, chest pain, anosmia, diarrhea, nausea, and vomiting. While fever, cough, and shortness of breath are the commonest [1,6]. Patients with

severe disease developed Acute respiratory distress syndrome [1,6]. The mortality rate in early studies was up to 15% but later studies showed a decrease in mortality rate up to 2% [7].

Laboratory confirmation depends on the PCR assay that detects viral RNA [4]. CT scan chest and x-ray show bilateral pneumonia and ground-glass appearance [1].

In our clinic, we have noticed patients with COVID-19 infection who developed a new cough or lingering persistent cough, after 14 days of treatment and isolation, after being tested negative and after the resolution of other symptoms.

AIM

The aim of this study to describe the frequency of post-infection cough among patients with different gender, age group, and PCR results.

MATERIALS AND METHODS

This was a cross-sectional observational study with prospectively collected data of 100 patients with documented COVID-19 infection who were tested positive for COVID-19 PCR, presented to the Department of Medicine in Infectious diseases clinic, Liaquat National Hospital Karachi Pakistan. Liaquat National Hospital is one of the few major hospitals in the city providing infectious disease expertise. It has a catchment area of

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2 million people also people are been referred to this hospital for better care from other hospitals and clinics.

These patients were included in the study from the outpatient department of our hospital and were characterized accordingly. The demographic data, clinical presentations, and radiological findings were retrieved from the data bank of the Infectious diseases Department and the Health information and management services department by the resident R4. The duration of the study is from April 2020 to June 2020. The institutional review board approved the research protocols and analyzed by using SPSS 25 software.

STATISTICAL ANALYSIS

The patient's data will be compiled and analyzed through the statistical package for Social Sciences (SPSS) Version 25. Qualitative variables are presented as frequencies and percentages. Quantitative variables are presented as mean ± SD. Effect modifiers are controlled through stratification. A Chi-square test is used for finding an association between categorical variables. p ≤ 0.05 is considered as significant.

RESULTS

In our study, we selected 100 patients with positive PCR results. 67 were males and 33 were females. The majority of the patients belonged to the age group between 30 years and 40 years and 44 patients were health care workers, as shown in Table 1. Only 6 patients belonged to the category of age above 60 years while the majority of the patients belonged to a young age group unlike the pattern documented in western world studies (Figure 1).

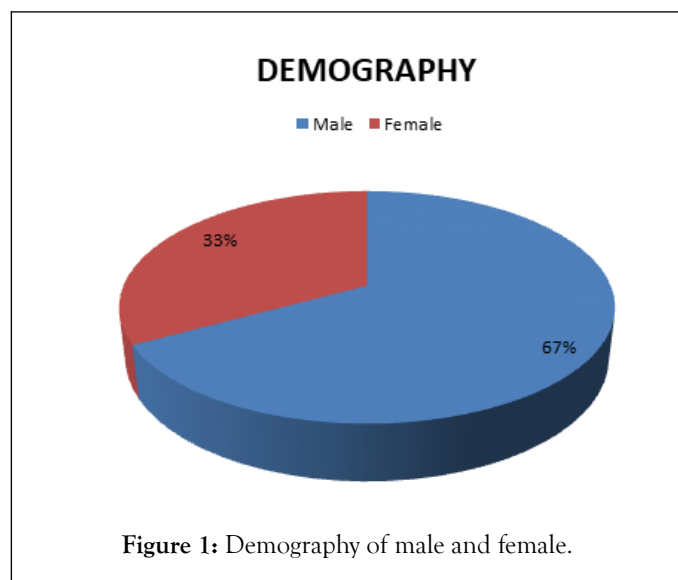


Figure 1: Demography of male and female.

Cardinal symptoms of presentation were fever, cough, and shortness of breath. The majority of the patients had a fever on presentation and 6 patients had fever and cough both at the time of presentation, while 9 patients were asymptomatic and all of these asymptomatic patients were young male as shown in Table 2.

Table 1: Demographic Characteristics.

Characteristics	Number of patients
Males	67
Females	33
Age group of 20-30 years	29
Age group of 30-40 years	37
Age group of 40-50 years	11
Age group of 50-60 years	16
Above 60 years	7
Health care workers	44

Table 2: Presenting symptoms.

Symptoms	Number of patients
Fever	73
Fever and Cough	69
Shortness of Breath	13
Asymptomatic	9

Table 3: Demography for Patients who developed post-infection cough.

Characteristics	Number of patients
Initial positive PCR	100
Post infection cough	15
New onset of cough after infection	4
Persistent cough after infection	11
Males with post infectious cough	12
Females with post infectious cough	3
Severe SOB	1
Need readmission	4
Positive PCR in Pts with post infectious cough	6

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Now as described in Table 3, out of 100 documented COVID positive patients, 15 patients developed post-infection cough. Out of those 15 patients, 11 had a persistent lingering cough and 4 patients developed new onset of cough after 14 days of treatment and isolation. 12 were males and 3 were females. Out of the 4 patients, required readmission, and only one patient developed severe shortness of breath. Most of the patients who experienced either a new cough or lingering persistent cough had negative repeat PCR test, however, some of them had positive repeat PCR.

DISCUSSION

As we have already discussed the coronavirus is a novel virus that mainly affects the respiratory system of humans. The primary symptoms were fever, cough, and shortness of breath that manifests as pneumonia. It is most severe in the early stages [8,9]. In the absence of a vaccine or treatment with proven efficacy, limiting human-to-human transmission is critical [10,11]. Self-isolation is an effective global strategy for stopping the transmission of the disease [12].

In our study the majority of the patients were males and the cardinal symptoms of the disease were fever, cough, and shortness of breath as described earlier. Around 15 percent of the patient who has initially positive covid-19 PCR tests was experienced cough after 14 days of isolation and treatment. The cough was either persistent or they developed a new cough. Some of the patients had a cough after being tested negative for COVID-19 PCR test. One of the patients developed severe shortness of breath and cough even after testing negative for Covid-19 PCR twice.

We have noticed that in considerable numbers of the patients who were treated and tested negative for PCR, experienced post-infectious cough that was either persistent or new-onset cough that lingers on for 7 to 12 days. And by far our knowledge no previous study was published, explaining and elaborating the post-infectious cough. Moreover, it seems to be an autoimmune process that continued even after the resolution of infection, and the patient developed new symptoms in that period. To validate this point we need more data and studies in this respect.

CONCLUSION

After tested negative for Covid-19 PCR, some of the patients developed a post-infectious cough and that remained there for 7 to 12 days, suggesting some autoimmune process after infection.

REFERENCES

- Huang C, Wang Y, Li X, Ren L, Zhao J, Hu y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet*. 2020; 395: 497-506.
- Perlman S. Another decade, another coronavirus. *N Engl J Med*. 2020; 382: 760-762
- Perlman S, Netland J. Coronaviruses post-SARS: Update on replication and pathogenesis. *Nat Rev Microbiol*. 2009; 7: 439-450.
- Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al. A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med*. 2020; 382: 727-733.
- Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med*. 2020; 382: 1199-1207.
- Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: A descriptive study. *N Engl J Med*. 2020; ; 395: 507-513.
- Wang W, Tang J, Wei F. Updated understanding of the outbreak of 2019 novel coronavirus (2019-nCoV) in Wuhan, China. *J Med Virol*. 2020; 92: 441-447.
- Wölfel R, Corman VM, Guggemos W, Seilmaier M, Zange S, Müller MA, et al. Virological assessment of hospitalized patients with COVID-2019. *Nature*. 2020;1-10.
- Woelfel R, Corman VM, Guggemos W, Seilmaier M, Zange S, Mueller MA, et al. Clinical Presentation and Virological Assessment of Hospitalized Cases of Coronavirus Disease 2019 in a Travel-Associated Transmission Cluster.
- Jefferson T, Del Mar C, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses: Systematic review. *BMJ*. 2009;339: b3675-b3675.
- Ahmed F, Zviedrite N, Uzicanin A. Effectiveness of workplace social distancing measures in reducing influenza transmission: A systematic review. *BMC Public Health*. *BMC Public Health*; 2018;18: 1-13.
- Livingston E, Bucher K, Rekitto A. Coronavirus Disease 2019 and Influenza 2019-2020. *JAMA*. 2020;323: 1122.